

REMARKS

Applicants respectfully request entry of the foregoing and reconsideration of the subject matter identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.116, and in light of the remarks which follow.

Entry of this Amendment is proper under 37 C.F.R. § 1.116 because the Amendment places the application into condition for allowance (for the reasons discussed herein), or places the application into better form for appeal, should an appeal be necessary. The Amendment does not raise the issue of new matter and does not raise issues requiring additional search and/or consideration since the Amendment is directed to subject matter previously considered during prosecution.

I. Status of Claims and Amendments

Claims 15-19, 21-25 and 29-33 are pending in the application.

By the above amendments, Applicants amended Claim 15 to further clarify that the claimed expandable composition comprises a polyamide, as the sole thermoplastic polymer in the expandable composition. Support for this amendment can be generally found in the specification including, for example, at pages 4 and 9 and Example 1 on page 10.

Applicants thank the Examiner for indicating that Applicants' amendments and remarks have overcome the prior rejections based on *Fujie* and *Fischer*. For at least the reasons that follow, Applicants respectfully submit that all pending claims in the application are in condition for allowance.

II. Rejection Under 35 U.S.C. § 102(b) Over Minami

Turning now to the Official Action, claims 15, 17, 21-22, 24-25 and 29-31 stand rejected under 35 U.S.C. § 102(b) as being anticipated by *Minami* (U.S. Patent No. 3,709,806). For at least the reasons that follow, withdrawal of the rejection is in order.

Independent claim 15, as amended above, defines a process for preparing a pearl based on an expanded polymer and having a continuous skin, the process comprising the following successive steps:

a) extruding an expandable composition comprising a polyamide, as the sole thermoplastic polymer in the expandable composition, and an expanding agent, in molten state, to effect expansion thereof, and

b) cooling using a liquid and chopping the expanded material thus obtained, wherein the step of cooling and chopping is performed at the die outlet and wherein the prepared pearl is a spherical article with its largest dimension being less than or equal to 15mm. (Emphasis added.)

Minami relates to a process for manufacturing foamable polyolefin particles. In the process, a polyolefin resin is blended with a hydrocarbon additive, which has a boiling point which is higher than the melting point of the polyolefin resin and a chemical blowing agent which decomposes into gas upon being heated. (See *Minami* at column 1, lines 15-21.)

It is well-established that a claim is anticipated only if each and every element set forth in the claims is found, either expressly or inherently described, in a single prior art reference. (See *Verdegaal Bros. v. Union Oil Company of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987) and M.P.E.P. § 2131.01.) That is not case here.

As indicated above, *Minami* relates to foamable polyolefin particles. *Minami* does not disclose or fairly suggest a process for preparing a pearl based on an expanded polymer and having a continuous skin, the process comprising, *inter alia*, extruding an expandable composition comprising a polyamide, as the sole thermoplastic polymer in the expandable composition, as defined in independent Claim 15, as amended above.

For at least these reasons, Claim 15 is patentable over *Minami*. The remaining claims all depend, directly or indirectly, from Claim 15 and are also patentable over *Minami* for at least the reasons that Claim 15 is patentable. Reconsideration and withdrawal of the § 102(b) rejection over *Minami* are respectfully requested.

III. Rejections Under 35 U.S.C. § 103(a) Over Minami, Cates, Bruckmann, Amano and Tamai

Claims 15, 17, 21, 22, 24-25 and 29-31 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Minami* in view of either *Cates* (U.S. Patent No. 5,284,433) or *Bruckmann* (U.S. Patent No. 5,059,103). Claims 16, 18 and 19 also stand rejected under § 103(a) over *Minami* alone or in view of either *Cates* or *Bruckmann* and further in view of *Amano* (U.S. Patent No. 5,234,640). Finally, Claims 32 and 33 also stand rejected under § 103(a) as being unpatentable over *Minami* alone or in view of either *Cates* or *Bruckmann* and further in view of *Tamai* (U.S. Patent No. 3,655,542). For at least the reasons that follow, withdrawal of these rejections is also in order.

Independent Claim 15 is recited above. Each of the other rejected claims depends, directly or indirectly, from independent Claim 15 and, therefore, necessarily includes the combination of features defined in independent Claim 15.

Minami is recited above.

Cates relates to an apparatus for cutting molten extruded strands of extruded thermoplastic into pellets. More specifically, it relates to an improved rotary cutter apparatus who's knife-blades cut strands of molten polymer extruding from a die, each knife-blade cutting-edge being independently maintained in contact with the die-face by means of a controlled spring mechanism. (See *Cates* at column 1, lines 5-15.)

Bruckmann relates to an underwater pelletizer in which a molten polymer is extruded through die orifices in a die plate in the form of continuous strands that are cut into pellets by a rotatable knife assembly having sharp edges engaged with a die face, which includes the discharge ends of the die orifices. More specifically, it relates to an underwater pelletizer of simple but yet efficient and dependable construction in which the rotatable blade assembly associated with the die face is driven from a standard foot mounted electric motor having a standard C-flange attachment in which the pelletizer shaft is key to the motor shaft and held in place by a set screw with the key being welded in a slot in the pelletizer shaft to facilitate its manufacturer. (See *Bruckmann* at column 1, lines 5-20.)

Amano relates to a process of producing a thermoplastic polyester series resin foamed material or molding thereof. More particularly, it relates to a process of producing a thermoplastic polyester series resin foamed material or molding thereof having uniform and fine cells therein, and high expansion ratio, and excellent heat resistance, and high rigidity. (See *Amano* at column 1, lines 5-12.)

Tamai relates to a modified cellular particle for molding cellular articles and a process for the production thereof, particularly, to a partially pre-expanded modified cellular particle, which is useful for molding to produce cellular articles. (See *Tamai* at column 1, lines 5-10.)

In order to establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all of the claimed features. (See, *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).) In addition, "all words in a claim must be considered in judging the patentability of that claim against the prior art." (See, *In re Wilson*, 424 F.2d 1382, 1385; 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).) (See, also M.P.E.P. § 2143.03).

For at least the following reasons, these requirements, and others, have not been met. First, with respect to the primary reference, *Minami*, Applicants respectfully submit that the reference does not disclose or fairly suggests each feature in the combination of features recited in independent Claim 15, which is necessarily present in the other rejected dependent claims. For example, as explained above, *Minami* fails to disclose fairly suggest a process for preparing a pearl based on an expanded polymer and having a continuous skin, the process comprising, *inter alia*, extruding an expandable composition comprising a polyamide, as the sole thermoplastic polymer in the expandable composition, as recited in independent Claim 15. None of the secondary references overcome this deficiency of *Minami* in that none of them disclose or fairly suggest modifying the disclosure of *Minami* to arrive at the claimed process including, *inter alia*, the step of extruding an expandable composition comprising a polyamide, as the sole thermoplastic polymer in the expandable composition.

Accordingly, for at least this reason, and because the asserted combinations of references cited for each § 103 rejection above do not reflect a proper consideration of all words in Claim 15, including, *inter alia*, the words "extruding an

expandable composition comprising a polyamide, as the sole thermoplastic polymer in the expandable composition," a *prima facie* case of obviousness has not been established over any of the cited combinations of references.

In addition to each of the recited combinations of references failing to teach or suggest each feature in the claimed combination of features defined in independent Claim 15, and necessarily present in each of the rejected dependent claims, it is well-established that the Patent Office bears the burden of establishing *why* one of ordinary skill in the art would have been led to modify the process of *Minami*. That is, the Official Action must demonstrate *why* one would have been motivated to modify processes of *Minami* directed to the use of polyethylene to arrive at a process wherein a polyamide, is the sole thermoplastic polymer in the expandable composition. The requisite motivation for doing so must stem from some teaching, suggestion or inference in the prior art as a whole or from the knowledge generally available to one of ordinary skill in the art, not from Applicants' disclosure. (See, *Ex Parte Nesbitt*, 25 U.S.P.Q. 2d 1817, 1819 (B.P.A.I. 1992); and *In re Oetiker*, 24 U.S.P.Q. 2d 1443, 1446 (Fed. Cir. 1992).) Here, neither *Minami*, alone or in combination with any of the cited secondary references, nor any other evidence in the Official Action provides any motivation for one of ordinary skill in the art to modify the described processes of *Minami* directed to polyethylene to arrive at the process of Claim 15 wherein a polyamide is the sole thermoplastic polymer.

In particular, *Minami* describes a process for the preparation of radiation-crosslinkable foamable polyolefin particles with the main objective being to avoid foaming of particles after extrusion and instead proceeding with foaming during a further crosslinking process. Nothing in *Minami*, or in any of the cited secondary references or any other evidence in the Official Action, would have led one of ordinary skill in the art to select the process of *Minami* and modify it to arrive at the claimed process of independent Claim 15.

Furthermore, the Official Action has also not established any reasonable expectation of success. That is, beyond looking to the cited references to determine if they suggest doing what the inventors have done, one must also consider if the references provide the required expectation of succeeding in that endeavor. (See *In re Dow Chem. Co. v. American Cyanamid*, 837 F.2d at 473, 5 U.S.P.Q.2d at 1531

(both the suggestion and the expectation of success must be found in the prior art, not in Applicant's disclosure).) Here, the cited references provide neither a suggestion nor an expectation of success in doing with the inventors have done (*i.e.*, developing a process for preparing a pearl based on expanded polymer and having a continuous skin, the process comprising various defined steps including the step of extruding an expandable composition comprising a polyamide as the sole thermoplastic polymer in the expandable composition, as defined in Claim 15).

For at least these reasons, Applicants respectfully submit that independent Claim 15 is patentable over each of the recited combinations of references. The rejected dependent claims all depend, directly or indirectly, from independent Claim 15 and are, therefore, also patentable over each of the cited combinations of references for at least the reasons that Claim 15 is patentable. Reconsideration and withdrawal of the above § 103(a) rejections are respectfully requested.

From the foregoing, Applicants earnestly solicit further and favorable action in the form of a Notice of Allowance.

If there are any questions concerning this paper or the application in general, Applicants invite the Examiner to telephone the undersigned at the Examiner's earliest convenience.

Respectfully submitted,

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